PROGRAM LOADING MECHANISM
THROUGH A SINGLE INPUT DATA PATH

Abstract of the Disclosure

Pieces of input data, which can be either setup data or program data with an associated identifier, are provided to a processing engine through a single input data path. After a system initially resets, the processing engine runs in setup mode. When an identifier for setup data is detected, input data is passed unchanged through an execution pipeline to control logic, which executes a setup program. The setup program loads a program counter, a memory, a register file counter, and a register file. When an identifier for program data is detected, the processing engine automatically switches to run mode and input data is processed in the execution pipeline. The processing engine automatically switches between run mode and setup mode depending on the identifier. Using a single input data path decreases hardware complexity and allows input data to be processed without external control logic.